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Lung Pathology

TOPIC: Lung Pathology

TYPE: Medical Student/Resident Case Reports

A REMINDER OF THE EXISTENCE OF EVALI IN THE TIME OF COVID-19

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INTRODUCTION: E-cigarette or Vaping Product Use-Associated Lung Injury (EVALI) is a severe lung disease recognized by the CDC in 2019 and which has been linked to vaping or E-cigarette use. EVALI can present clinical symptoms and radiological imaging findings similar to a severe infection. We present a case of a patient with risk factors, clinical symptoms, and X-ray and CT scan findings consistent with a diagnosis of Coronavirus-19 (COVID-19) but who was ultimately diagnosed with EVALI.

CASE PRESENTATION: An 18 year-old female with a past medical history of anxiety, depression, endometriosis, and persistent asthma presents with shortness of breath. In addition, she reported vomiting 17 times the night prior to admission, experiencing transient chest pain, and abdominal discomfort. She endorsed recently vaping Cannabidiol (CBD oil), as well as a potential exposure to COVID-19 while attending her college classes. In the ED, she was in sinus tachycardia with rates in the 130's, O2 sats were 94% on 6L nasal cannula. Labs were significant for a WBC of 17.6, Creatinine of 0.7, lactate of 2.1, Troponin of 0.55, CRP of 14.42, D-dimer 362, and a Creatine kinase of 445. EKG showed only sinus tachycardia. Chest xray showed multinodular infiltrates throughout both lungs. A CT angiogram performed did not show a pulmonary embolism but did show diffuse multifocal opacities in a peribronchial distribution suggestive of an acute alveolar process. She was given 6mg of dexamethasone in the emergency room given continued clinical suspicion for COVID-19, and was initiated on empiric antibiotics for potential community acquired pneumonia. She was weaned off of oxygen within 48 hours of her admission. Given her multiple negative COVID PCR tests, her rapid clinical improvement, and her recent history of vaping, she was treated supportively for EVALI. She was discharged with 5 days of Cefpodoxime for empiric treatment for aspiration pneumonia with instructions to follow-up with her PCP and to obtain a repeat chest x-ray in 4 weeks.

DISCUSSION: COVID-19 should not overshadow the importance of continuing to consider other causes of a patient's respiratory symptoms in a patient with hypoxia, elevated inflammatory markers, and bilateral infiltrates on radiographs. EVALI may present with similar clinical and radiographic findings as COVID-19, but remains primarily a diagnosis of exclusion. EVALI should be suspected in a patient with a history of vaping within 90 days, infiltrates on radiograph, after excluding an infectious etiology, and excluding another plausible diagnosis. Treatment for EVALI is primarily supportive with limited evidence supporting the use of glucocorticoids.

CONCLUSIONS: A high suspicion for EVALI is necessary in a patient who presents with hypoxia, infiltrates on radiographs, and a history of vaping, as the presentation could be similar to COVID-19, but the management and prognosis may significantly differ.

REFERENCE #1: Kazachkov, Mikhail. Diagnosis of EVALI in the COVID-19 Era, The Lancet, 1 Dec. 2020, [www.thelancet.com/journals/lanres/article/PIIS2213-2600\(20\)30450-1/fulltext#:~:text=As%20of%20Feb%2018%2C%202020,for%20Disease%20Control%20and%20Prevention](https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(20)30450-1/fulltext#:~:text=As%20of%20Feb%2018%2C%202020,for%20Disease%20Control%20and%20Prevention).

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DOI: <https://doi.org/10.1016/j.chest.2021.07.1535>

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